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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/810,924 | 03/26/2004 | Toni Kopra | 872.0180.U1(US) | 9401 |

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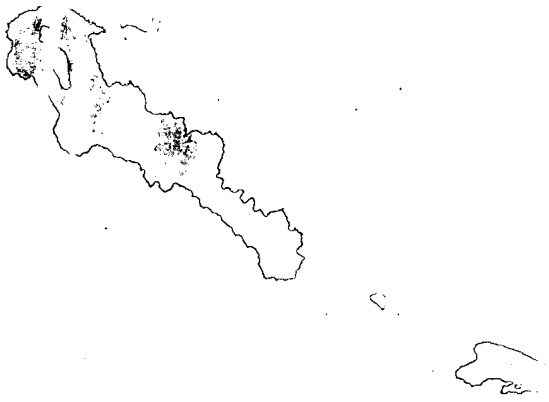
| EXAMINER | |
|---|---|
| SAMS, MATTHEW C | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2617 | |

DATE MAILED: 12/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.



| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/810,924 | KOPRA ET AL. | |
| | Examiner | Art Unit | |
| | Matthew C. Sams | 2617 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *18 September 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-9,12-20,22-27,30,35,37,38,40 and 47-50* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9,12-20,22-27,30,35,37,38,40 and 47-50* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### *Response to Amendment*

1. This office action has been changed in response to the amendment filed on 9/18/2006.

2. Claims 10, 11, 21, 28, 29, 31-34, 36, 39 and 41-46 have been canceled.

### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 13, 14, 16 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Wang et al. (US-6,990,453 hereinafter, Wang).

Regarding claim 13, Wang teaches a mobile station MS (Col. 7 line 67 and Col. 8 line 5) comprising:

an interface to receive a media sample; (Col. 5 line 36 through Col. 6 line 60)

a processor to extract a plurality of *n* timepoints and at least *n* spectral slices of the digital version of the media sample; (Col. 6 line 8 through Col. 7 line 7 and Col. 15 line 25 through Col. 17 line 24) and

a transmitter to transmit a plurality of messages over a wireless communication link, each message comprising at least one timepoint, a spectral slice, and an identifier

that links the spectral slice to the timepoint. (Col. 6 line 35 through Col. 7 line 36, Col. 8 line 61 through Col. 9 line 32 and Col. 21 lines 13-29)

Regarding claim 14, Wang teaches that each spectral slice of subsequent messages corresponds to a larger portion of the digital version of the media sample than a spectral slice of a preceding message. (Col. 6 line 61 through Col. 7 line 11 [e.g. Wang teaches that the slices are being captured as the sample is being capture and therefore coming from a larger sample])

Regarding claim 16, Wang teaches a user interface (Col. 5 lines 36-59 and Col. 7 line 67 through Col. 8 line 24) by which a single user input initiates:

the processor to extract the first set of features, a wireless communications link to be established between the MS and a communication service, and the extracted first set of features to be transmitted over the wireless communications link. (Col. 6 line 61 through Col. 7 line 36 and Col. 7 line 67 through Col. 8 line 24)

Regarding claim 17, Wang teaches the single user input further initiates a buffer disposed between the transducer and the processor to begin storing at least a portion of the digital version of the media sample. (Col. 15 line 25 through Col. 16 line 2)

### *Claim Rejections - 35 USC § 103*

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1-9, 12, 22-27, 30, 37, 38, 40 and 47-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang et al. (US-6,990,453 hereinafter, Wang) in view of Barton et al. (US 2002/0072982 hereinafter, Barton).

Regarding claim 1, Wang teaches a mobile station (Col. 7 line 67 through Col. 8 line 5) comprising:

an interface to receive a media sample; (Fig. 1 [12] and Col. 5 line 36 through Col. 6 line 15)

a processor to extract a first set of features from a digital version of the media sample; (Col. 6 lines 14-34 and Fig. 1 [14])

a transmitter to transmit the extracted first set of features over a wireless communication link; (Col. 6 line 61 through Col. 7 line 11 and Col. 8 lines 5-24)

and inherently includes a receiver for receiving information. (Col. 7 line 67 through Col. 8 line 5) Wang differs from the claimed invention by not explicitly reciting the receiver is for receiving a request message over the wireless link that requests additional features and the processor is automatically responsive to the request message to extract a second set of features from the digital version of the media sample and the transmitter is further to transmit the extracted second set.

In an analogous art, Barton teaches a system for identifying audio samples that includes a recursive feature for automatically requesting more information in order to narrow the search results to find the corresponding file. (Page 5 [0048 and 0049]) At the time the invention was made, it would have been obvious to one of ordinary skill in the art to implement the mobile station of Wang after modifying it to incorporate the

ability to increase resolution to resolve ambiguity of Barton. One of ordinary skill in the art would have been motivated to do this since it enables back and forth communication to resolve ambiguity. (Page 5 [0048-0049])

Regarding claim 2, Wang in view of Barton teaches the interface comprises a transducer. (Wang Col. 7 line 67 through Col. 8 line 5)

Regarding claim 3, Wang in view of Barton teaches the transducer comprises a microphone and the media sample comprises an audio sample. (Wang Col. 5 lines 36-59, Col. 7 line 67 through Col. 8 line 5, Fig. 1 [12] and Col. 15 lines 25-58)

Regarding claim 4, Wang in view of Barton teaches the transducer comprises a camera and the media sample comprises a visual sample. (Wang Col. 5 lines 36-59)

Regarding claim 5, Wang in view of Barton obviously teaches the interface comprises one of a cable and a wireless link. (Wang Col. 7 line 67 through Col. 8 line 5 and Col. 15 lines 25-58)

Regarding claim 6, Wang in view of Barton teaches the media sample that the interface receives is the digital version. (Wang Col. 15 lines 25-58)

Regarding claim 7, Wang in view of Barton teaches the transmitter is further to transmit a message that includes the at least one extracted feature and no portion of the digital version of the media sample. (Wang Col. 4 lines 23-32 [LPC coefficients and frequency components of spectrogram peaks])

Regarding claim 8, Wang in view of Barton teaches the processor is further to adaptively select a number of features to extract based on the digital version of the

media sample. (Wang Col. 4 lines 23-32 [LPC coefficients and frequency components of spectrogram peaks])

Regarding claim 9, Wang in view of Barton teaches the processor is further to adaptively select at least one type of feature to extract based on the digital version of the media sample, the processor extracts at least one feature of the adaptively selected type, and wherein the transmitter is further to transmit an identifier of the selected type of feature. (Wang 4 lines 15-41 and Col. 7 line 3 through Col. 8 line 24)

Regarding 12, Wang in view of Barton teaches a user interface for causing the transmitter to transmit the first set of features, and a buffer to store at least a portion of the digital version of the media sample, wherein the processor extracts at least some of the first set prior to a user input at the said user interface. (Wang Col. 21 line 57 through Col. 22 line 50)

Regarding claim 22, Wang in view of Barton teaches the request message specifically identifies each additional feature at least by type and the second set of features comprises only features of the said identified type. (Wang Col. 15 line 59 through Col. 16 line 2)

Regarding claim 23, Wang in view of Barton teaches a computer program, embodied on a computer readable medium within a mobile station (Wang Col. 7 line 67 through Col. 8 line 24), to process a media sample comprising:

a first set of computer instructions to extract in response to a user input, a first set of features from a digital media sample (Wang Col. 6 lines 14-34 and Fig. 1 [14]), and to extract in response to a received request message a second set of features

consistent with additional features that are requested in the request message; (Barton Page 5 [0048 and 0049]) and

a second set of computer instructions to transmit in separate messages (Wang Col. 7 lines 3-11 and Col. 8 lines 16-21) the first and second sets of extracted features over a wireless communication link. (Wang Col. 7 line 67 through Col. 8 line 24)

Regarding claim 24, the limitations of claim 24 are rejected as being the same reason set forth above in claim 7.

Regarding claim 25, the limitations of claim 25 are rejected as being the same reason set forth above in claim 8.

Regarding claim 26, the limitations of claim 26 are rejected as being the same reason set forth above in claim 9.

Regarding claim 27, Wang in view of Barton teaches the ability to transmit extracted features and time-bounded segments. (Wang Col. 6 line 61 through Col. 7 line 11)

Regarding claim 30, Wang in view of Barton teaches at least one feature defines a timepoint, the first set of computer instructions is to extract at least one timepoint from the digital media sample, and one of said messages comprises a timepoint, a spectral slice of the digital media sample and an identifier that links the spectral slice to the timepoint. (Fig. 8A and Col. 6 line 35 through Col. 7 line 36, Col. 8 line 61 through Col. 9 line 32 and Col. 21 lines 13-29)

Regarding claim 37, Wang in view of Barton teaches a computer program embodied on a computer readable medium to uniquely match a plurality of extracted features to a feature set stored in a database comprising:

a first set of computer instructions to separately receive over a network a first and second message that includes first and second sets of received features (Wang Col. 7 lines 3-11 and Col. 7 line 67 through Col. 8 line 24), respectively;

a second set of computer instructions to search a database of feature sets for all matching sets that match the first set of received features and to determine a second set of at least one additional feature that distinguishes among each of the matching sets; (Barton Page 5 [0048-0049])

a third set of computer instructions to transmit over the network a request message that stipulates the second set of additional features; (Barton Page 5 [0048-0049]) and

a fourth set of computer instructions to uniquely identify one feature set from among the matching sets using the second set of received features. (Barton Page 5 [0048-0051] and Wang Col. 16 line 45 through Col. 17 line 39)

Regarding claim 38, Wang in view of Barton teaches each feature set is associated with a media file title (Wang Fig. 8B), the computer program further comprising a fifth set of computer instructions to transmit, over the network to a sender of the message, a reply message that includes the media file title. (Wang Fig. 1 [22] and Col. 6 lines 35-60)

Regarding claim 40, Wang in view of Barton teaches the fourth set of computer instructions further is to determine a link address for a media file uniquely associated with the uniquely identified feature set, and wherein the fifth set of computer instructions is further to transmit the link address in the reply message. (Barton Page 2 [0022-0023])

Regarding claim 47, Wang in view of Barton teaches the request message includes at least one of a number of additional features and a type of the at least one additional feature. (Wang Col. 12 line 38 through Col. 13 line 10 and Barton Page 5 [0048-0049])

Regarding claim 48, the limitations of claim 48 are rejected as being the same reasons set forth above in claim 23.

Regarding claim 49, Wang in view of Barton teaches the means for receiving comprises a transducer, and the means for extracting comprises a digital processor. (Wang Col. 7 line 12 through Col. 8 line 5 and Col. 15 lines 53-55)

Regarding claim 50, the limitations of claim 50 are rejected as being the same reasons set forth above in claim 1.

7. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wang.

Wang teaches a receiver for receiving a sample identification message (Col. 6 lines 57-60) but differs from the claimed invention by not explicitly reciting the processor is further to terminate transmitting further timepoints and spectral slices of the said media sample in response to receipt of the sample identification message. However, since Wang teaches transmitting fingerprints for identification as the samples become

available (Col. 7 lines 3-11), at the time the invention was made, it would have been obvious to one of ordinary skill in the art that Wang would stop transmitting fingerprints once an identification of the file is returned because there would be no need to continue to use bandwidth once a result has been returned. (Col. 6 line 57 through Col. 7 line 11)

8. Claims 18-20 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang in view of Barton as applied to claim 1 and 23 above, and further in view of Ravago et al. (US-6,529,584 hereafter, Ravago).

Regarding claim 18, Wang in view of Barton teaches the limitations of claim 1 above, but differs from the claimed invention by not explicitly reciting extracting MPEG-7 descriptors from the digital version of the media sample.

In an analogous art, Ravago teaches an interactive audio delivery system that includes extracting MPEG-7 file information. (Col. 4 lines 29-61) At the time the invention was made, it would have been obvious to one of ordinary skill in the art to implement the real-time information searching system of Wang in view of Barton after modifying it to incorporate the MPEG-7 file information of Ravago. One of ordinary skill in the art would have been motivated to do this since the audio tags can provide additional information to the user about the audio file. (Col. 4 lines 29-56)

Regarding claim 19, Wang in view of Barton and Ravago teaches the processor extracts MPEG-7 file information that is non-reconstructive of the digital version of the media sample. (Ravago Col. 4 lines 29-61 *e.g.* time value)

Regarding claim 20, Wang in view of Barton and Ravago teaches the extracted features (Ravago Col. 4 lines 29-61) for which the transmitter is to transmit are non-reconstructive of the digital version of the media sample. (Ravago Col. 4 lines 29-61)

Regarding claim 35, the limitations of claim 35 are rejected as being the same reason set forth above in claim 19.

***Response to Arguments***

9. Applicant's arguments filed 9/18/2006 have been fully considered but they are not persuasive.

10. In response to the applicant's argument regarding claim 13 that "in no instance is Wang seen to use a plurality of messages, each with a timepoint and a linked spectral slice extracted from a digital version of the same media sample" (Page 11 [Next to last Para]), the Examiner disagrees.

Wang teaches "database queries (step 16) are carried out as sample fingerprints become available" (Col. 7 lines 3-5) and "Sending this feature-extracted summary to the server, instead of the raw captured signal, is advantageous because the amount of data is greatly reduced, often by a factor of 500 or more. Such information can be sent in real time over a low bandwidth side channel along with or instead of...an audio stream" (Col. 8 lines 16-21), this "method can identify a sound based on segments of 5-10 seconds and even as low as 1-3 seconds" (Col. 6 line 66 through Col. 7 line 1) and takes timepoints and linked spectral slices extracted from the digital media file. (Col. 8 line 30 through Col. 10 line 40 and Col..15 line 59 through Col. 16 line 2) Therefore, it is

obvious to one of ordinary skill in the art that Wang teaches sending multiple linked landmarks and fingerprints as the sample is being captured in multiple messages.

***Conclusion***

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew C. Sams whose telephone number is (571)272-8099. The examiner can normally be reached on M-F 7:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester Kincaid can be reached on (571)272-7922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MCS
12/11/2006

LESTER G. KINCAID
SUPERVISORY PRIMARY EXAMINER